

AUTHORIZATION TO MARK

In recognition of its compliance with PFS TECO's policies, the manufacturer listed below is authorized to mark their product(s) with the following certification mark.



Manufacturer: NORITEC Holzindustrie GmbH
Feistritz 1
9751 Sachsenburg
Austria

PFS TECO Plant No.: 905

Product: Glued Laminated Timber

Product Description: Glued laminated timber from Norway Spruce lumber bonded with exterior-type adhesive, of the following grades:

GL 24h, GL 28h, GL 28c, GL 32h, and GL 32c

with the following dimensions:

Depth: 3 $\frac{1}{8}$ - 50 $\frac{1}{2}$ in. (80 - 1280 mm)

Width: 3 $\frac{1}{8}$ - 11 $\frac{1}{8}$ in. (80 - 280 mm)

Length: up to 88 $\frac{3}{4}$ ft. (up to 27 m)

Refer to [PFS TECO Building Product Evaluation Report 0136](#)

Standard: ANSI A190.1-2017, *Standard for Wood Products – Structural Glued Laminated Timber*

Authorized by:

Issue Date: 27 May 2022

A handwritten signature in black ink that reads 'Steven A. Verhey'.

Steven A. Verhey, PhD
Technical Director, Building Products Division

PFS Corporation dba PFS TECO, Cottage Grove, WI USA

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HASSLACHER Glued Laminated Timber

NORITEC Holzindustrie GmbH

Initial Acceptance: 27 May 2022

Version 1.0

Expiration: 27 May 2023

TYPE OF ACCEPTANCE

Product Material – Wood, Plastics and Composites
CSI Section 06 18 13 – Glued Laminated Beams

MANUFACTURER IDENTIFICATION

NORITEC Holzindustrie GmbH
Feistritz 1
9751 Sachsenburg
Austria
www.hasslacher.com

DESCRIPTION OF THE PRODUCT EVALUATED

This Building Product Evaluation Report (BPER) applies to glued laminated timber (GLT) manufactured by NORITEC Holzindustrie GmbH in accordance with ANSI A190.1, with in-plant manufacturing procedures approved by PFS TECO, and identified by brand name **HASSLACHER Glued Laminated Timber** or **HASSLACHER GLT**.

HASSLACHER GLT is composed of selected grades of kiln-dried Norway Spruce lumber (“laminations”) with the grain direction of all laminations oriented parallel to the longitudinal axis of the GLT, with adjacent laminations face bonded with adhesive to form a composite structural glued member. Laminations may be comprised of multiple pieces that are end-jointed to create longer lengths. The adhesives used to manufacture **HASSLACHER GLT** are exterior-type adhesives meeting the requirements of ANSI 405.

HASSLACHER GLT is available in depths of 3 $\frac{1}{8}$ to 50 $\frac{1}{2}$ in. (80 to 1280 mm), widths 3 $\frac{1}{8}$ to 11 $\frac{1}{8}$ in. (80 to 280 mm), and lengths up to 88 $\frac{3}{4}$ ft. (27 m); elements outside these parameters are available as special components and are outside the scope of this Report. The maximum lamination thickness is 1 $\frac{3}{4}$ in. (45 mm). End joints comply with standards ANSI A190.1 and ASTM D3737. **HASSLACHER GLT** is produced in balanced layups only (i.e., with lamination grades placed symmetrically about the neutral axis of the GLT).

HASSLACHER GLT is intended for use as beams and columns in load bearing and non-load bearing applications.

CODES AND STANDARDS APPLICABLE TO PRODUCT

- 2012, 2015, 2018, and 2021 editions of the International Building Code® (IBC)
- 2012, 2015, 2018, and 2021 editions of the International Residential Code® (IRC)
- 2015 and 2018 editions of the National Design Specification® (NDS®) for Wood Construction
- ANSI A190.1-2017, *Standard for Wood Products – Structural Glued Laminated Timber*
- ANSI 117-2015, *Standard Specification for Structural Glued Laminated Timber of Softwood Species*
- ASTM D3737-18, *Standard Practice for Establishing Allowable Properties for Structural Glued Laminated Timber (Glulam)*

PROPERTIES REVIEWED

Testing of **HASSLACHER GLT** was conducted in accordance with the applicable Codes and Standards. The evaluation of the

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testing and analysis verified that the **HASSLACHER GLT** described in Table 1 complies with the requirements of ANSI A190.1.

DESIGN

HASSLACHER GLT design properties and capacities are provided in Table 1 in this Report. **HASSLACHER GLT** can be used as elements in the design of structural systems, although the design of such systems is beyond the scope of this Report.

Fire resistance of **HASSLACHER GLT** can be calculated using Section 16.2 of the NDS.

LIMITATIONS OF ACCEPTANCE

The **HASSLACHER GLT** described in this Report comply with or are suitable alternatives to what is specified in those codes listed in the 'Codes and Standards Applicable to Product' section of this Report, subject to the following conditions:

1. The product described in this Report is limited to dry service conditions where the in-service equilibrium moisture content is less than 16%.
2. Design calculations, shop drawings and installation instructions must be furnished to the building official or authority having jurisdiction, verifying that **HASSLACHER GLT** beams are used in compliance with this Report and the requirements of the Engineer of Record (EOR).
3. Cutting or notching of **HASSLACHER GLT** beams is not permitted, unless provided for in the design.
4. **HASSLACHER GLT** beams are manufactured at the NORITEC manufacturing facility located in Sachsenburg, Austria. Quality control inspections are performed by PFS TECO or its recognized agent.

DOCUMENTATION SUBMITTED

Submitted data was provided in accordance with PFS TECO's *Certification and Inspection Policy: Glued Laminated Timber in Accordance with ANSI A190.1*. Test data and analysis was also provided and reviewed in accordance with ANSI A190.1.

PRODUCT IDENTIFICATION

HASSLACHER GLT beams and columns described in this Report are identified by a mark bearing the standard (ANSI A190.1), product name, production date and time, stress class, plant number (905), the PFS TECO Building Product Evaluation Report number (BPER 0136), and the PFS TECO certification mark (as shown in Fig. 1).



Fig. 1: PFS Check Certification Mark with United States country identifier



Table 1. Reference Design Values for HASSLACHER GLT ^(a)

Glulam Grade	Bending About X-X Axis (Loaded Perpendicular to Wide Faces of Laminations)				Axially Loaded		Fasteners
	Extreme Fiber in Bending ^(b) (psi)	Compression Perpendicular to Grain (psi)	Horizontal Shear (psi)	Modulus of Elasticity (10 ⁶ psi)	Tension Parallel to Grain (psi)	Compression Parallel to Grain (psi)	Specific Gravity for Fastener Design
	F _{bx}	F _{c⊥x}	F _{vx} ^(c)	E _{x app}	F _t	F _c	G
GL 24h	1,650	430	240	1.7	1,350	1,850	0.42
GL 28h	1,950	430	240	1.8	1,550	2,150	0.46
GL 28c	1,950	430	240	1.8	1,350	1,850	0.42
GL 32h	2,200	430	240	2.1	1,750	2,450	0.49
GL 32c	2,200	430	240	2.0	1,350	1,850	0.44

- (a) For members stressed primarily in bending. Tabulated design values are for normal load duration and dry service conditions.
- (b) HASSLACHER GLT is produced only with balanced layups, therefore F_{bx} is the same for positive and negative bending.
- (c) The design values for shear (F_{vx} and F_{vy}) shall be decreased by multiplying by a factor of 0.72 for non-prismatic members (e.g., members with varied cross section along their length), notched members, and for all members subject to impact or cyclic loading. The reduced design value shall be used for design for members at connections that transfer shear by mechanical fastener. The reduced design value shall also be used for determination of design values for radial tension and torsion.